

LISTING OF CLAIMS

1 1 (Currently Amended). A diode, comprised of two electrodes
2 laterally shifted from each other and placed on non conductive
3 substrate, ~~wherein the first electrode includes a conductive~~
4 ~~dielectric layer deposited on the substrate, a conductive layer~~
5 ~~placed on top of said dielectric layer and a nanotube placed on~~
6 ~~top of ~~it~~ said first conductive layer,~~ the axis of said nanotube
7 being essentially normal to one of the edges of the said
8 conductive layer ~~and while said nanotube protrudes beyond said~~
9 ~~one of the edges of said conductive layer, ~~the~~ into the area of~~
10 ~~a second electrode which~~ includes a conductive layer placed on
11 the substrate next to said one of the edges of said first
12 conductive layer ~~and on a plane below the plane of said first~~
13 ~~electrode,~~ so that said nanotube is located above and protrudes
14 into the area of said second electrode.

2 (Canceled).

3 (Canceled).

4 (Canceled).

5 (Canceled).

6 (Canceled).

1 7 (Original). The diode of claim 1 wherein an additional
2 metal layer is disposed on top of a major part of said nanotube
3 leaving exposed the nanotube tip protruded into the area of said
4 second electrode.

1 8 (Currently Amended). The diode of claim ~~7~~ 1 wherein said
2 additional metal layer is disposed onto entire nanotube
3 including the nanotube tip.

1 9 (Original). The diode of claim 8 wherein said additional
2 metal layer is made from a material with low work function for
3 electron emission into vacuum.

1 10 (Original). The diode of claim 9 in which said
2 additional metal layer is made from Cs.

11. (Previously Withdrawn).

12. (Previously Withdrawn).

13. (Canceled).

1 14 (Currently Amended). A diode comprising two electrodes
2 laterally shifted from each other and placed on an insulating
3 substrate, wherein the first electrode contains the first
4 conducting layer, a dielectric layer deposited on the substrate

5 ~~and the first conducting layer on top of said dielectric layer,~~
6 ~~while the second electrode contains the second conductive layer,~~
7 ~~placed on the substrate and disposed next to one of the edges of~~
8 ~~said first conductive layer, on a plane below the plane of said~~
9 ~~first conductive layer; a small pad of nanotube catalytic~~
10 ~~material is deposited on said second conductive layer in close~~
11 ~~proximity to said one of the edges of said first conductive~~
12 ~~layer, and the a nanotube is grown normally to the substrate~~
13 ~~plane; the nanotube height is such that the nanotube tip is~~
14 ~~slightly below or reaches the plane of said first conductive~~
15 ~~layer and in close proximity to said one of the edges of said~~
16 ~~first conductive layer, the nanotube height being essentially~~
17 ~~equal to the thickness of said dielectric layer.~~

15 (Canceled).

1 16 (Currently Amended). The diode of claim 14, wherein an
2 array of ~~the nanotubes~~ ~~small pad of catalytic material are~~
3 ~~deposited on said second conductive layer~~ is grown along said
4 one of the edges of said first conductive layer ~~and thus create,~~
5 ~~after the nanotube growth, an array of the nanotube electron~~
6 ~~sources.~~

17 (Canceled).

18 (Previously Withdrawn).

1 19 (Currently Amended). The diode of claim ~~of~~ 14 wherein
2 said additional metal layer is disposed onto the tip of the
3 nanotube.

1 20 (Original). The diode of claim 19 wherein said
2 additional metal layer is made from a material with a low work
3 function for electron emission into vacuum.

1 21 (Currently Amended). The diode of claim ~~of~~ 20 in which
2 said additional metal layer is made from Cs.

22-49 (Previously Withdrawn).

1 50. A diode, comprised of two electrodes laterally shifted
2 from each other and placed on non conductive substrate, wherein
3 the first electrode includes a dielectric layer deposited on the
4 substrate, a conductive layer placed on top of said dielectric
5 layer and an array of the nanotubes placed on top of said first
6 conductive layer, the axis of the nanotubes being essentially
7 normal to one of the edges of the said conductive layer while
8 said nanotubes protrude beyond said one of the edges of said
9 conductive layer into the area of a second electrode which
10 includes a conductive layer placed on the substrate next to said
11 one of the edges of said first conductive layer, so that said
12 array of the nanotubes is located above and protrudes into the
13 area of said second electrode.